

1. A method of modifying a thermal barrier assembly comprising a channel, said method comprising:

5 exposing a surface of said channel to a plasma comprising metal moieties;

and

depositing said metal moieties on the surface of said channel.

2. The method of claim 1, wherein said channel comprises a surface treatment prior to said depositing step, said method further comprising removing at least a portion of 10 said surface treatment from said channel.

3. The method of claim 1, wherein said metal is selected from the group consisting of aluminum, nickel, chromium, iron, graphite, molybdenum, copper, cobalt, tungsten, indium, manganese, zirconium, zinc, cesium, yttrium, antimony, and oxides, 15 carbides, nitrides and silicides thereof, and alloys and mixtures thereof.

4. The method of claim 1, wherein said thermal barrier assembly comprises a structure selected from the group consisting of a window casing, door casing and curtain wall.

20 5. The method of claim 1, wherein said depositing comprises forming a metal coating on the surface of said channel.

6. The method of claim 1, wherein said coating has a thickness of no greater 25 than about 2 mm.

7. The method of claim 1, wherein said channel is defined by a substrate comprising metal.

30 8. The method of claim 7, wherein said metal is aluminum.

9. The method of claim 1, wherein said channel is defined by a substrate comprising a polymer.

10. The method of claim 1, wherein said channel comprises a first side wall, a 5 second side wall positioned parallel to said first side wall and spaced no greater than about 2.5 cm from said first side wall.

11. The method of claim 1, wherein said thermal barrier assembly comprises a window casing.

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12. The method of claim 1, wherein said thermal barrier assembly comprises a door casing.

13. A thermal barrier assembly comprising:

15 a channel comprising a layer of metal bonded to a surface of said channel, said metal having been deposited onto said channel surface from a plasma.

14. The thermal barrier assembly of claim 13, further comprising an adhesive composition bonded to the modified surface of said channel.

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15. The thermal barrier assembly of claim 14, wherein said adhesive composition comprises polyurethane.

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16. The thermal barrier assembly of claim 14, wherein said adhesive composition exhibits no greater than 5 % shrinkage when bonded to said surface and subjected to the % Shrinkage Test Method.

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17. The thermal barrier assembly of claim 14, wherein said adhesive composition exhibits no greater than 1% shrinkage when bonded to said surface and subjected to the % Shrinkage Test Method.

18. The thermal barrier assembly of claim 14, wherein said adhesive composition exhibits a shear strength of at least 2500 psi shear strength at room temperature after being subjected to the Thermal Cycling Method.

5 19. The thermal barrier assembly of claim 14, wherein said adhesive composition exhibits a shear strength of at least 3000 psi at room temperature after being subjected to the Thermal Cycling Method.

10 20. The thermal barrier assembly of claim 14, wherein said adhesive composition exhibits a shear strength of at least 7500 psi at room temperature after being subjected to the Thermal Cycling Method.

15 21. The thermal barrier assembly of claim 13, wherein said metal is selected from the group consisting of aluminum, nickel, chromium, iron, graphite, molybdenum, copper, cobalt, tungsten, indium, manganese, zirconium, zinc, cesium, yttrium, antimony, and oxides, carbides, nitrides and silicides thereof, and alloys and mixtures thereof.

20 22. The thermal barrier assembly of claim 13, wherein said channel is defined by a substrate comprising metal.

23. The thermal barrier assembly of claim 22, wherein said metal comprises aluminum.

24. The thermal barrier assembly of claim 13, wherein said channel is defined by a substrate comprising a polymer.

25 25. A window casing comprising the thermal barrier assembly of claim 15.

26. A door casing comprising the thermal barrier assembly of claim 15.

30 27. A process for making a thermal barrier assembly, said process comprising:

exposing a surface of a channel of a thermal barrier assembly to a plasma comprising metal moieties; and  
depositing said metal moieties on the surface of said channel.

5        28. The process of claim 27, further comprising contacting the metal surface of  
said channel with an adhesive composition.

10        29. The process of claim 27, wherein prior to said depositing, said channel  
comprises a surface treatment disposed on the channel surface, said process further  
comprising removing at least a portion of said surface treatment prior to depositing said  
metal moieties.

15        30. The process of claim 27, wherein said metal is selected from the group  
consisting of aluminum, nickel, chromium, iron, graphite, molybdenum, copper, cobalt,  
tungsten, indium, manganese, zirconium, zinc, cesium, yttrium, antimony, and oxides,  
carbides, nitrides and silicides thereof, and alloys and mixtures thereof.

20        31. The process of claim 28, wherein said adhesive composition comprises  
polyurethane.

25        32. The process of claim 27, wherein said surface treatment is selected from the  
group consisting of polyester, melamine, mill finish, conversion coating, primer, paint,  
acrylic, polyester, enamel, polyurethane, fluoropolymer, anodic finishes and combinations  
thereof.

30        33. The process of claim 27, wherein said channel is defined by a substrate  
comprising metal.

34. The process of claim 33, wherein said metal comprises aluminum.

35. The process of claim 27, wherein said channel is defined by a substrate comprising a polymer.

36. A process for making a window casing comprising the process of claim 27.

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37. A process for making a door casing comprising the process of claim 27.